



CENTER FOR ADVANCED AVIATION SYSTEM DEVELOPMENT (CAASD)

ASSAP Simulation Progress and Design Updates

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Outline

- Status of Simulation Development
- Status of Simulation Testing
- Design Updates



Status of Simulation Development

- Surveillance processing code is fully implemented.
- Application processing code is partially implemented.
 - Enhanced Visual Approach function has been implemented.
 - If target meets NACp/NACv requirements, closure rate is calculated and sent to CDTI.
 - Conflict Detection function needs to be implemented.



Status of Simulation Testing

- Surveillance processing algorithms and adaptable parameters have been validated with 3 data sets (including real world data).
 - However, additional data sets for testing are desired.
- Enhanced Visual Approach algorithm has been tested, however, additional testing is required.
- Once implemented, Conflict Detection algorithm will be tested with available data sets (i.e. to measure number of false alerts with real world data).



Status of Simulation Testing

- A final/formal round of testing needs to be conducted to document performance data for ASSAP surveillance processing functions (i.e. comparing input and output).
- Sample performance metric – number of duplicate tracks.
 - Suboptimal spatial correlation parameters produce multiple tracks for one target.
 - Since inactive tracks are not terminated for x seconds (after the last update), ghosts are temporarily generated on the CDTI.
 - While these events have been minimized, their frequency should be documented as a measure of system performance.



Design Updates

- Design documentation is being updated to include significant changes to ASSAP algorithms:
 - Candidate Window
 - TCAS tagging
 - Ownship shadow detection
 - CDTI refresh